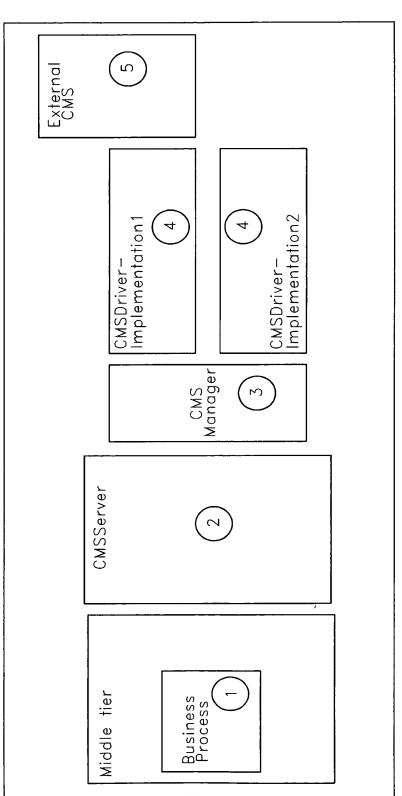


Docket: RBI-P0004 Application No.: 10/659,161 Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300



Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

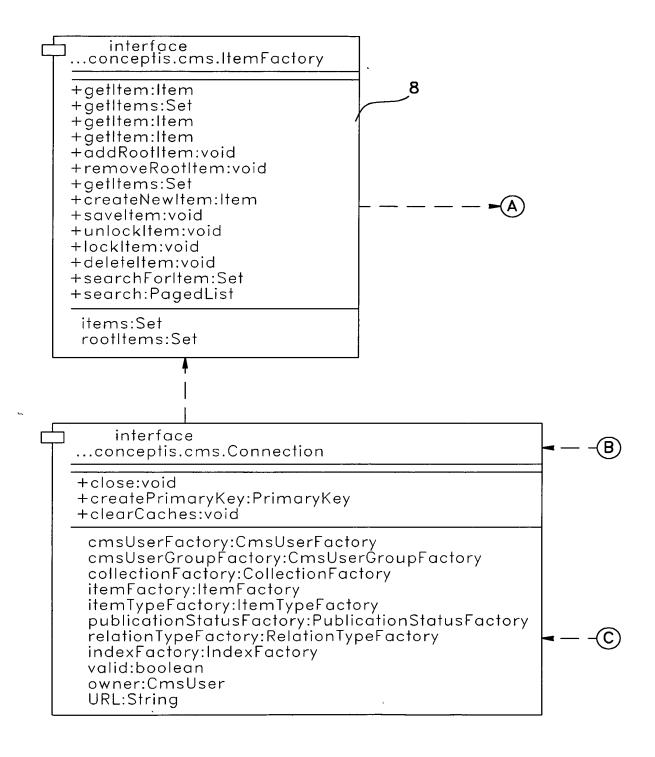


FIG. 2

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Contact: Kevin R. Erdman Phone: 317.237.0300

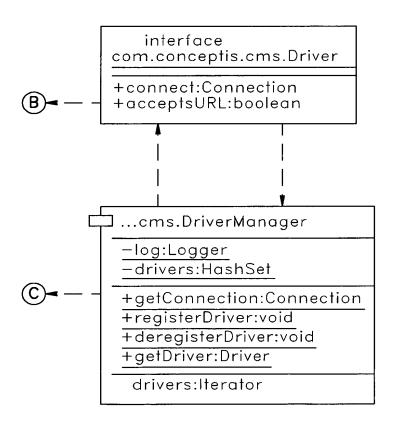


FIG. 2A CONTINUATION

Application No.: 10/659,161 Docket: RBI-P0004 Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

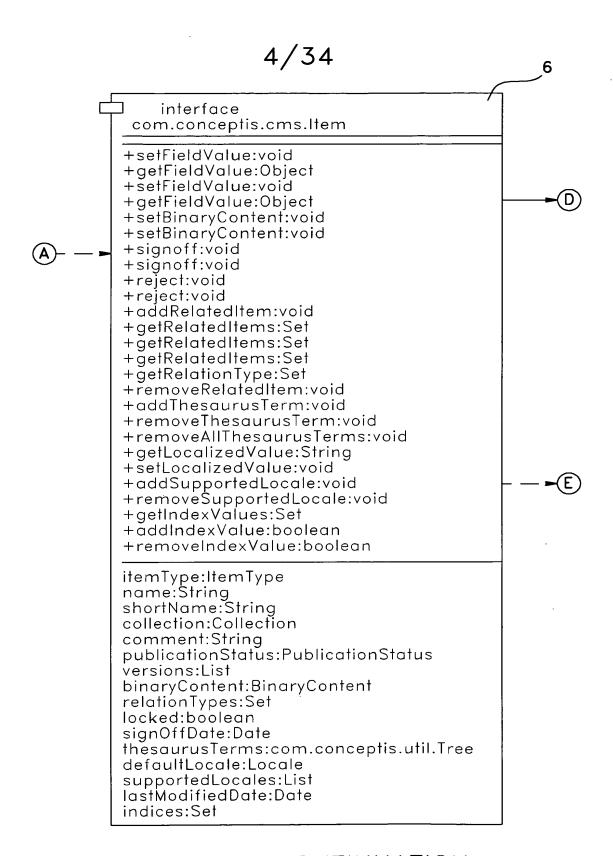


FIG. 2B CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

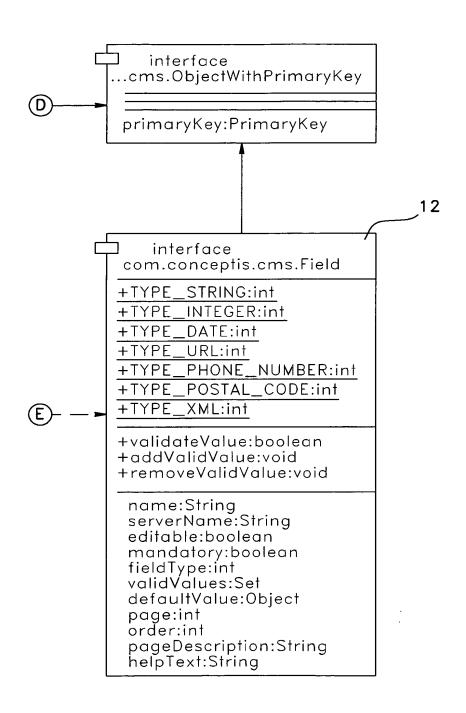


FIG. 2C CONTINUATION

Docket: RBI-P0004 Application No.: 10/659,161

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Phone: 317.237.0300

Contact: Kevin R. Erdman

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10 interface ItemType +addField:void +addField:void +getField:Field +removeField:void +removeField:void +addRelatedItemType:void +getRelatedItemTypes:Set +removeRelatedItemType:void +supportsExtendedRelationships:boolean +supportsLocalizedString:boolean name:String field:Field[] fields:List publishingFlow:PublishingFlow collection:Collection parent:ItemType children:Set maximumVersions:int binary:boolean items:Set

FIG. 3

Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

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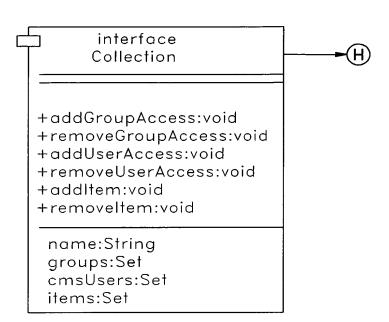
interface Field +TYPE_STRING:int +TYPE_INTEGER:int +TYPE_DATE:int +TYPE_URL:int +TYPE_PHONE_NUMBER:int +TYPE_POSTAL_CODE:int +TYPE_XML:int +validateValue:boolean +addValidValue:void +removeValidValue:void name:String serverName:String editable:boolean mandatory:boolean fieldType:int validValues:Set defaultValue:Object page:int order:int pageDescription:String helpText:String

FIG. 3A CONTINUATION

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METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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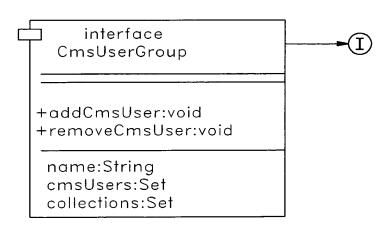


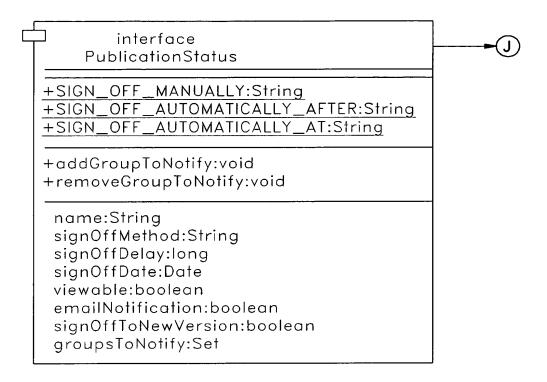
FIG. 3B CONTINUATION

Docket: RBI-P0004 Application No.: 10/659,161

Inventor: Thomas Bennett et al.

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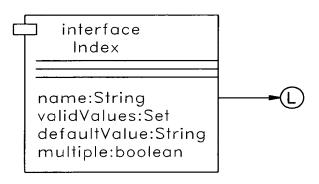
interface CmsUser +addCmsUserGroup:void +removeCmsUserGroup:void username:String password:String firstName:String lastName:String email:String cmsUserGroups:Set collections:Set active:boolean

FIG. 3C CONTINUATION

Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

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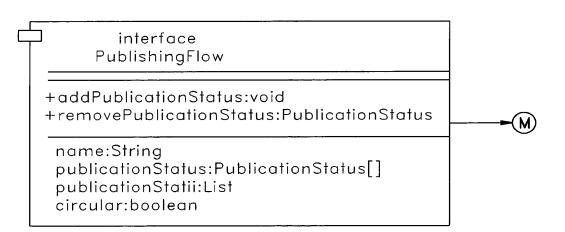


FIG. 3D CONTINUATION

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Contact: Kevin R. Erdman Phone: 317.237.0300

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interface ltem +setFieldValue:void +aetFieldValue:Object +setFieldValue:void +getFieldValue:Object +setBinaryContent:void +setBinaryContent:void +signoff:void +signoff:void +reject:void +reject:void +addRelatedItem:void +getRelatedItems:Set +aetRelatedItems:Set +getRelatedItems:Set +getRelationType:Set +removeRelatedItem:void +addThesaurusTerm:void +removeThesaurusTerm:void +removeAllThesaurusTerms:void +getLocalizedValue:String N) +setLocalizedValue:void +addSupportedLocale:void +removeSupportedLocale:void +getIndexValues:Set +addIndexValue:boolean +removeIndexValue:boolean itemType:ItemType name:String shortName:String collection:Collection comment:String publicationStatus:PublicationStatus versions:List binaryContent:BinaryContent relationTypes:Set locked:boolean signOffDate:Date defaultLocale:Locale FIG. 3E supportedLocales:List lastModifiedDate:Date CONTINUATION indices:Set

Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

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ItemSearchConstraints

+TEXT_SEARCH_EXACT:int

+TEXT_SEARCH_FUZZY:int

+TEXT_SEARCH_NORMAL:int

+SORT_NONE:int

+SORT_AUTHOR:int

+SORT_UPDATE:int

+SORT_TYPE:int

+SORT_NAME:int

+SORT_ID:int

+SORT_SCORE:int

+SORT_FIELD:int

-types:Set

-maxResults:Integer

-start:Item

+addAuthor:void

+removeAuthor:void

+addCollection:void

+removeCollection:void

+addltemType:void

+removeltemType:void

+addSortField:void

+removeSortField:void

+addValueFields:void

+addField:void

+removeField:void

+addIndexValue:void

+toString:String

authors:Set collections:Set itemTypes:Set sortFields:Set deep:boolean startDate:Date endDate:Date

maximumResults:Integer

textSearchType:int searchType:int startPoint:Item sortOrder:int resultsPerPage:int freeQuery:String

valueFields:Collection

fields:Set value:String

fieldUnion:boolean

indices:Map

-(N)

FIG. 3F CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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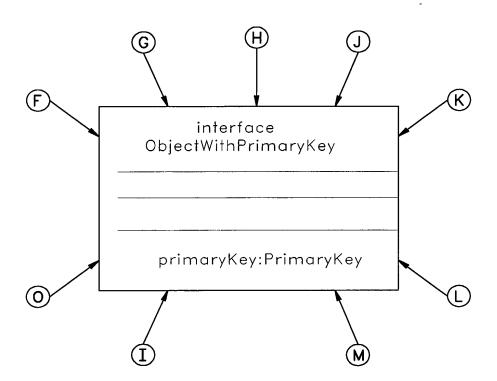


FIG. 3G CONTINUATION

Docket: RBI-P0004 Application No.: 10/659,161 Inventor: Thomas Bennett et al. METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Phone: 317.237.0300 Contact: Kevin R. Erdman 14/34 Exception CmsException +CmsException +CmsException +CmsException +CmsException ConnectionException AuthorizationException +AuthorizationException +ConnectionException +AuthorizationException +ConnectionException +AuthorizationException +ConnectionException +AuthorizationException +ConnectionException AuthenticationException MissingResourceException +BAD_USERNAME:int +BAD PASSWORD:int +MissingResourceException +AuthenticationException +MissingResourceException +AuthenticationException +MissingResourceException +AuthenticationException +MissingResourceException +AuthenticationException +AuthenticationException errorCode:int ModifiedResourceException

- +ModifiedResourceException
- +ModifiedResourceException
- +ModifiedResourceException
- +ModifiedResourceException

FIG. 4

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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DriverManager

- -log:Logger
- -drivers:HashSet
- +getConnection:Connection
- +registerDriver:void
- +deregisterDriver:void
- +getDriver:Driver

drivers:Iterator

interface BinaryContent

contentLength:int mimeType:String contentStream:InputStream

interface PublishingFlowFactory

- +getPublishingFlow:PublishingFlow
- +createNewPublishingFlow:PublishingFlow
- +savePublishingFlow:void
- +deletePublicationStatus:void

publishingFlows:Set

FIG. 4A CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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interface RelationType

- +PRIMARY_PARENT:String
- +PARENT:String
- +SECONDARY_PARENT:String
- +CHILD:String
- +DESCENDANT:String

name:String unique:boolean mandatory:boolean

> interface Version

version:long note:String

publicationStatus:PublicationStatus

author:CmsUser

date:Date

FIG. 4B CONTINUATION

Docket: RBI-P0004 Application No.: 10/659,161

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Phone: 317.237.0300

Contact: Kevin R. Erdman

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+createNewItemType:ItemType +getitemType:ItemType +getitemType:ItemType ItemTypeFactory +deleteltemType:void +saveltemType:void interface itemTypes:Set

+createNewPublicationStatus:PublicationStatus

+deletePublicationStatus:void +savePublicationStatus:void

publicationStatii:Set

+getPublicationStatus:PublicationStatus

+getPublicationStatii:List

PublicationStatusFactory

interface

+relationshipPermitted:boolean +getRelationType:RelationType +getRelationType:RelationType RelationTypeFactory +getRelationTypes:Set interface

FIG. 4C CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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interface Connection

- +close:void
- +createPrimaryKey:PrimaryKey
- +clearCaches:void

cmsUserFactory:CmsUserFactory

cmsUserGroupFactory:CmsUserGroupFactory

collectionFactory:CollectionFactory

itemFactory:ItemFactory

itemTypeFactory:ItemTypeFactory

publicationStatusFactory:PublicationStatusFactory

relationTypeFactory:RelationTypeFactory

indexFactory:IndexFactory

valid:boolean owner:CmsUser

URL:String

interface CmsUserFactory

- +getCmsUser:CmsUser
- +getCmsUser:CmsUser
- +createNewCmsUser:CmsUser
- +saveCmsUser:void
- +deleteCmsUser:void

cmsUsers:Set

interface Relationship

+getParameterValues:List

relation:Item

parameterNames:Iterator

FIG. 4D CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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com.conceptis.cms.util

- +NodeData
- +PseudoPoolingCmsServer
- +DefaultCmsManagerImpl
- +CmsManagerFactory
- +CmsServer
- +ConnectionPool
- +PoolingCmsServer
- +CmsManager
- +NodeLoader

com.conceptis.cms.filter

- +ItemFieldDateComparator
- +ItemItemTypeFilter
- +ItemPublicationStatusFilter
- +ItemLastModificationDateFilter
- +ItemFieldDateRangeFilter
- +ItemLastModificationUserFilter
- +CmsUserUsernameComparator
- +ItemLastModificationDateComparator
- +ItemNameComparator
- +ItemFieldRegexFilter
- +ItemDateRangeFilter
- +ObjectWithPrimaryKeyComparator
- +DateAwareItemNameComparator

interface SecurityManager

+isAllowed:boolean

+isAllowed:boolean

FIG. 4E CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Phone: 317.237.0300

Contact: Kevin R. Erdman

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interface CollectionFactory :

- +getCollection:Collection
- +createNewCollection:Collection
- +saveCollection:void
- +deleteCollection:void

collections:Set

interface Driver

+connect:Connection +acceptsURL:boolean

interface **ItemFactory**

- +getItem:Item
- +getItems:Set
- +getItem:Item
- +getItem:Item
- +addRootItem:void
- +removeRootItem:void
- +getItems:Set
- +createNewItem:Item
- +saveltem:void
- +unlockItem:void
- +lockItem:void
- +deleteltem:void
- +searchForItem:Set
- +search:PagedList

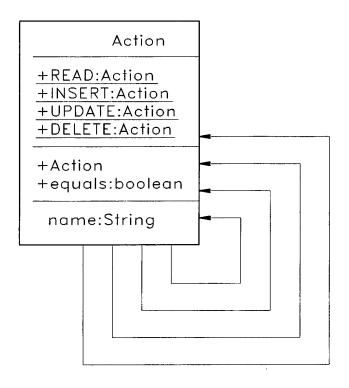
items:Set rootItems:Set

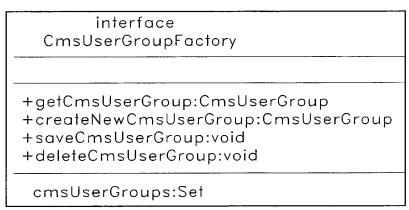
FIG. 4F CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT... Phone: 317.237.0300 Contact: Kevin R. Erdman

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interface IndexFactory +getIndex:Index +getIndices:Set

FIG. 4G CONTINUATION

Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

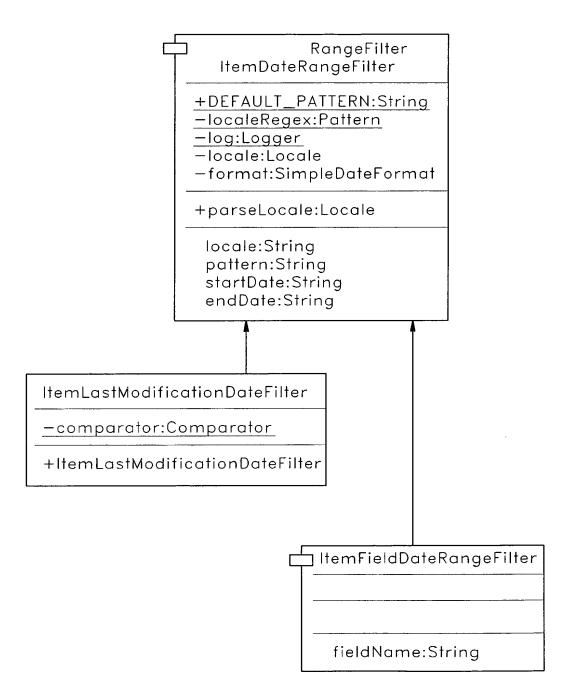


FIG. 5

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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AbstractFilter
ItemLastModificationUserFilt...

-log:Logger

+filter:boolean

username:String
included:boolean

Comparator
ObjectWithPrimaryKeyComp...

-log:Logger

+compare:int

ascending:boolean

Comparator
ItemFieldDateComparator

-log:Logger

+compare:int

fieldName:String

FIG. 5A CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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AbstractFilter ItemItemTypeFilter

- -log:Logger-type:String
- +filter:boolean

itemType:String
included:boolean

] AbstractFilter ItemPublicationStatusFilter

- <u>-log:Logger</u> -status:String
- +filter:boolean

publicationStatus:String included:boolean

Comparator ItemNameComparator

- -log:Logger
- -reverse:boolean
- +ItemNameComparator
- +ItemNameComparator
- +compare:int

AbstractFilter ItemFieldRegexFilter

- -log:Logger
- -pattern:Pattern
- +filter:boolean

fieldName:String regexp:String

FIG. 5B CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
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Comparator
CmsUserUsernameCompar...

-log:Logger
+compare:int
ascending:boolean

Comparator
ItemLastModificationDateComp...

—log:Logger

+compare:int

Comparator DateAwareItemNameComparat...

- -nameAscending:boolean
- -dateAscending:boolean
- +YEAR_PATTERN:String
- -pattern:Pattern
- +DateAwareItemNameComparator
- +DateAwareItemNameComparator
- +compare:int

FIG. 5C CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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interface CmsManager +addCmsServer:void +getCmsServer:CmsServer +addRoutingProperty:void +getConnection:Connection +getConnection:Connection +releaseConnection:void DefaultCmsManagerImpl -log:Logger -cmsServers:HashMap -connections:HashMap -itemTypeHandlers:HashMap +addCmsServer:void +addRoutingProperty:void -addItemTypeHandler:void +getCmsServer:CmsServer -getConnection:Connection +getConnection:Connection +getConnection:Connection +releaseConnection:void defaultCmsServer:CmsServer

FIG. 6

27/34 CmsServer -log:Logger +CmsServer getConnection:Connection returnConnection:void +getProperties:Properties +toString:String id:String driver:Driver url:String roleMapping:HashMap properties:Properties PseudoPoolingCmsServer PoolingCmsServer -log:Logger -log:Logger -connections:HashMap -connectionPools:HashMap -connections:HashMap +PseudoPoolingCmsServer +getConnection:Connection +PoolingCmsServer +getConnection:Connection +returnConnection:void +returnConnection:void poolMetaData:PoolMetaData

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Contact: Kevin R. Erdman

FIG. 6A CONTINUATION

Inventor: Thomas Bennett et al.

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Contact: Kevin R. Erdman Phone: 317.237.0300

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Serializable NodeData

+toString:String

id:String

CmsManagerFactory

cmsManager:CmsManager

ObjectPool ConnectionPool

-log:Logger

+ConnectionPool

#create:Object

#expire:void

#validate:boolean

+toString:String

driver:Driver

url:String

properties:Properties

NodeLoader

-log:Logger

+NodeLoader

+generateNodeData:NodeData

+isExpandable:boolean

+isInsertable:boolean

+getChildren:Set

+loadNode:void

+appendChildNode:void

-recurseChild:void

root:DefaultMutableTreeNode

FIG. 6B CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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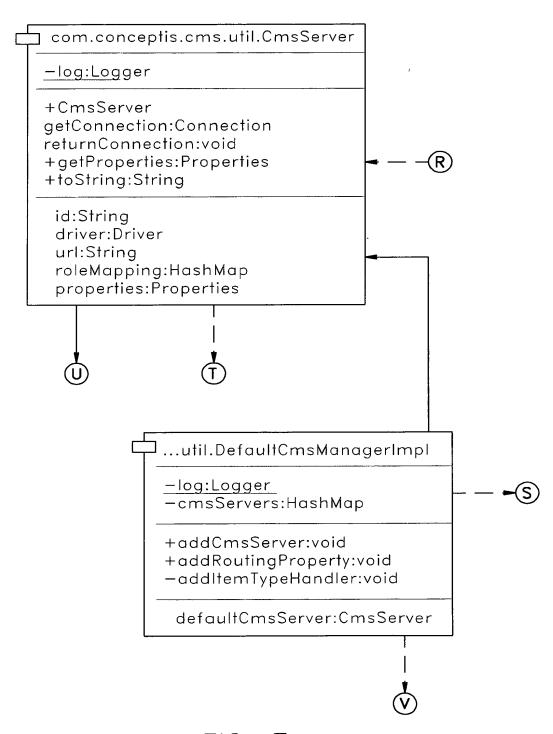


FIG. 7

Application No.: 10/659,161 Docket: RBI-P0004 Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

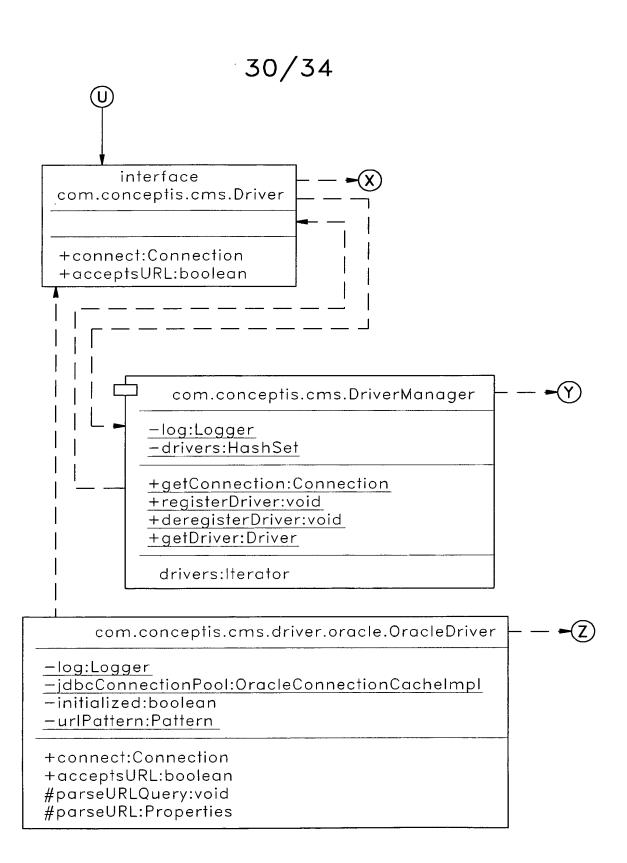


FIG. 7A CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

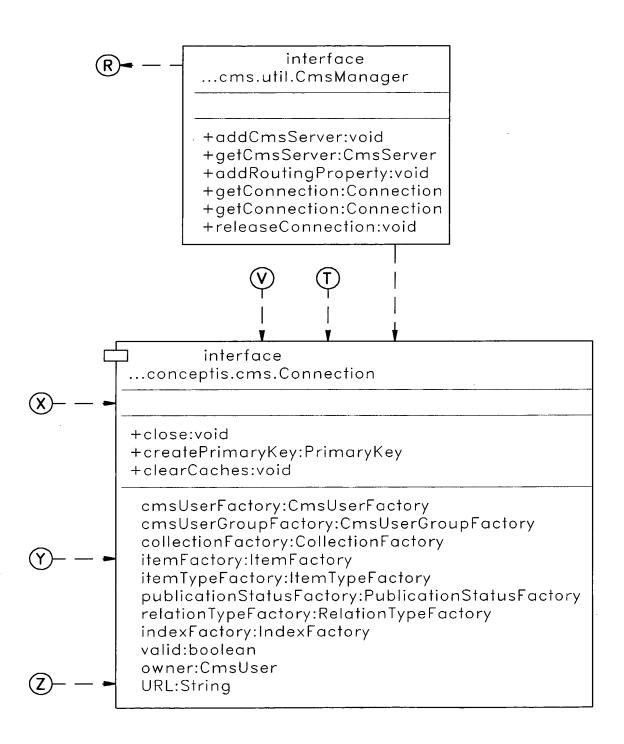
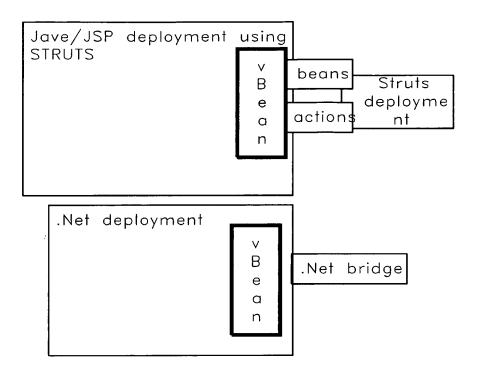


FIG. 7B CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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- 1- service requests content
- 2 CMS driver determines how to get the content according to itemtype
- 3 CMS instructs content factory to attempt to construct the item, factory will determine whether the content is already in the cache or not
- 4 constructed item is available
- 5 service processes the requested content

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...
Contact: Kevin R. Erdman Phone: 317.237.0300

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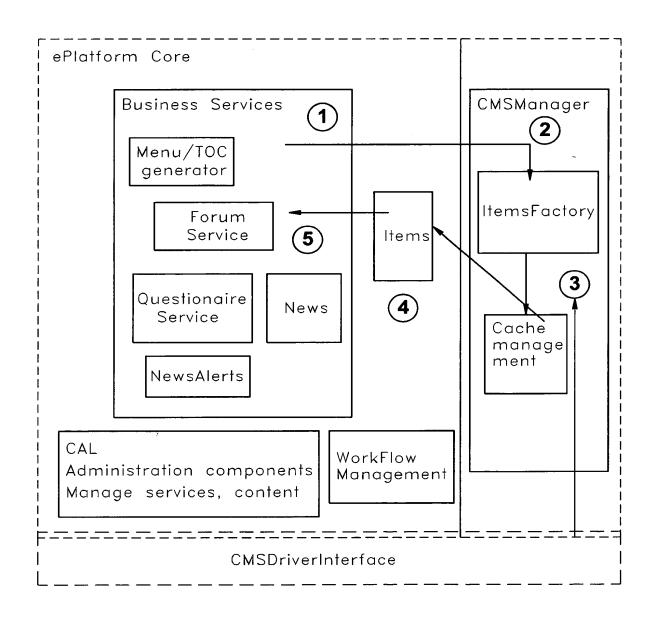


FIG. 8A CONTINUATION

Inventor: Thomas Bennett et al.

METHOD AND SYSTEM FOR ACCESSING A PIECE OF CONTENT...

Contact: Kevin R. Erdman Phone: 317.237.0300

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CMSImplementation LDAP UserDatabase LDAP **CMSImplementation** Interwoven Interwoven implementations implement CMSDriver they can provide registers for the type of items When loaded each driver CMS driver interface. **CMSImplementation** MediaSurface MediaSurface 8B CONTINUATION legacy CMS based legacy CMS Conceptis Oracle Oracle